

Exhibit F



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1 sides of its platform?	1 A. I don't have a specific cutoff for
2 A. In general, all else equal, there	2 you. It's pretty common to see a firm of less
3 are network effects here that say advertisers	3 than 5 or less than 1 percent.
4 prefer platforms that have more publishers, and	4 If you look at the data here, there
5 publishers prefer -- prefer platforms that have	5 are dozens of ad exchanges competing and staying
6 more advertisers, all else equal.	6 in the market. That's not a market structure
7 Q. And why, if at all, does scale	7 that, to me, is suggestive that scale is required
8 matter to ad exchanges?	8 to compete.
9 ATTORNEY EWALT: Objection to	9 Q. And in your view, as an economist,
10 form and foundation.	10 are the ad exchanges you're describing
11 THE WITNESS: Yeah, I'm not -- I	11 differentiated?
12 mean, the -- I'm not sure that it does.	12 A. They're not identical, so they're
13 I mean, the evidence here is that	13 -- I guess they're differentiated. They're
14 ad exchanges are -- there are lots and	14 providing the same basic services. They're
15 lots of ad exchanges competing at various	15 taking bids from buy side, and they're bidding on
16 small sizes. To me, it's the first	16 publisher exchanges. So they're not identical,
17 indicator that this is not an industry in	17 but they're -- they seem to be successfully
18 which one has to have scale to compete.	18 competing for advertisers and publishers.
19 BY ATTORNEY NAKAMURA:	19 Q. And as an economist, what do you
20 Q. Is it your opinion, sitting here	20 understand the word "differentiated" to mean used
21 today, that scale does not matter to the	21 in the context of comparing different firms?
22 competitiveness of ad exchanges in digital	22 A. That they're not -- they're not
Page 331	Page 333
1 display advertising?	1 selling the same thing, that there are
2 ATTORNEY EWALT: Objection to	2 differences in their services.
3 form.	3 Q. And why, if at all, in your
4 THE WITNESS: It's not my opinion	4 opinion, does scale matter to publisher ad server
5 that there's no scale effects at all. I	5 products?
6 mean, we talked about network effects, so	6 ATTORNEY EWALT: Objection to
7 you need some number of publishers and	7 form and foundation.
8 advertisers using your product. And it's	8 [REDACTED]
9 not my opinion that, you know, I could go	[REDACTED]
10 launch an ad tech product with five	[REDACTED]
11 impressions.	[REDACTED]
12 So I think there's some role for	[REDACTED]
13 scale, but I don't think I've seen any	[REDACTED]
14 evidence that you have to be particularly	[REDACTED]
15 large to be able to reach scale. And I	[REDACTED]
16 think that's shown by the large number of	[REDACTED]
17 small competitors that continue to stay	[REDACTED]
18 in the market and -- and win business.	[REDACTED]
19 BY ATTORNEY NAKAMURA:	[REDACTED]
20 Q. And how do you define, for example,	[REDACTED]
21 by market share, what a "small competitor" is in	[REDACTED]
22 the ad exchange business?	[REDACTED]

<p style="text-align: center;">Page 334</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>5 BY ATTORNEY NAKAMURA:</p> <p>6 Q. And are there network effects that</p> <p>7 are relevant to publisher ad servers, in your</p> <p>8 opinion?</p> <p>9 A. Yes.</p> <p>10 Q. What are they?</p> <p>11 A. Again, that you want -- I mean,</p> <p>12 it's more about the -- the platform -- the rules of</p> <p>13 the platform and the extent the ability it has to</p> <p>14 attract buyers and sellers. But it's important</p> <p>15 for an ad server -- to be successful, that it</p> <p>16 attracts publishers and that that set of</p> <p>17 publishers and the rules of the ad server attract</p> <p>18 advertisers. So it's -- there's network effects</p> <p>19 in the -- in the sense that attracting both sides</p> <p>20 of the market matters.</p> <p>21 Q. And are there, in your opinion,</p> <p>22 bidirectional network effects that are of</p>	<p style="text-align: center;">Page 336</p> <p>1 are part -- and, again, I think of these</p> <p>2 as part of the -- creating a match, and</p> <p>3 at every part of that match, you have to</p> <p>4 get a publisher -- you have to get</p> <p>5 publishers and advertisers to agree to</p> <p>6 use your product.</p> <p>7 So publishers have to agree to</p> <p>8 use the ad server, and advertisers have</p> <p>9 to find it worthwhile to buy inventory</p> <p>10 from a publisher using that ad server.</p> <p>11 So in -- in each of these matched stages,</p> <p>12 you need to attract both sides of the</p> <p>13 market.</p> <p>14 BY ATTORNEY NAKAMURA:</p> <p>15 Q. But how often, as a relative</p> <p>16 matter, do advertisers buy directly into a</p> <p>17 publisher's ad server as opposed to, for example,</p> <p>18 using a DSP or other intermediary service to</p> <p>19 purchase inventory?</p> <p>20 ATTORNEY EWALT: Objection to</p> <p>21 form.</p> <p>22 THE WITNESS: I mean, any --</p>
<p style="text-align: center;">Page 335</p> <p>1 relatively the same magnitude moving in both</p> <p>2 directions for a publisher ad server?</p> <p>3 ATTORNEY EWALT: Objection to</p> <p>4 form.</p> <p>5 THE WITNESS: I think they're --</p> <p>6 in all of these technologies, I think</p> <p>7 they're relatively of the same magnitude</p> <p>8 because the whole business is about</p> <p>9 making matches, so you need people</p> <p>10 choosing your product on both sides.</p> <p>11 BY ATTORNEY NAKAMURA:</p> <p>12 Q. So is it your opinion that the</p> <p>13 bidirectional nature of network effects for a</p> <p>14 publisher ad server are roughly equal to those</p> <p>15 found in a advertising ad exchange product?</p> <p>16 ATTORNEY EWALT: Objection to</p> <p>17 form.</p> <p>18 THE WITNESS: I don't -- it's --</p> <p>19 I don't know if it's something where you</p> <p>20 say "roughly equal." I don't know what</p> <p>21 the number is. But I guess conceptually,</p> <p>22 absolutely, yes. Because both products</p>	<p style="text-align: center;">Page 337</p> <p>1 anytime that they buy from anybody who's</p> <p>2 O&O, they're buying directly into an ad</p> <p>3 server.</p> <p>4 My point is that if they -- if an</p> <p>5 ad server -- if Google's ad server didn't</p> <p>6 work well such that the rules didn't</p> <p>7 create good matches, advertisers would</p> <p>8 take their business elsewhere. And</p> <p>9 that's a -- that's -- advertisers -- if</p> <p>10 the rules of the game that were set up by</p> <p>11 the ad server were unattractive,</p> <p>12 advertisers are entirely capable of</p> <p>13 substituting around by purchasing ads in</p> <p>14 other forms.</p> <p>15 BY ATTORNEY NAKAMURA:</p> <p>16 Q. And other than purchasing from O&O</p> <p>17 publishers, what examples do you have of an</p> <p>18 advertiser buying in directly to a publisher ad</p> <p>19 server?</p> <p>20 A. I mean, anytime that they buy</p> <p>21 direct.</p> <p>22 Q. And are there any examples you have</p>

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<p>1 of indirect purchasing done directly into a 2 publisher ad server other than through O & O 3 inventory?</p> <p>4 ATTORNEY EWALT: Objection to 5 form.</p> <p>6 THE WITNESS: I mean, I'm not 7 sure if it's in -- I mean, obviously, the 8 O & O is a big deal. But I think that -- 9 yeah, I think the O & O is where I can 10 see -- the examples I have in mind of 11 where they purchase indirect. And, 12 obviously, to me, that's an example of 13 substituting around the ad server.</p> <p>14 There may be examples in the 15 record, but as I sit here, I don't 16 think -- I can't think of a case where 17 there's an indirect purchase straight 18 into an ad server that isn't in an O & O 19 setting.</p> <p>20 BY ATTORNEY NAKAMURA:</p> <p>21 Q. Okay. Let's turn now to 22 Paragraph 529 of your report, which is on</p>	<p>1 it causes me to think it looks like the market is 2 doing well and thus I would need to see some very 3 clear demonstration of a but-for world that would 4 have been even better to conclude there's harm. 5 So I wouldn't stop with the output 6 by itself. That's my point to Plaintiffs' 7 experts, you need to show a but-for world. But 8 it certainly tells me that it's going to be a 9 kind of Herculean task to show harm here because 10 this market seems to be doing very well. But you 11 could do it; you just -- they would have had to 12 show a but-for world to do so.</p> <p>13 Q. And how do you identify as a 14 methodological matter, as an economist, when 15 evaluating a competitiveness of a market, 16 candidate but-for worlds that you might compare 17 to the actual world with respect to output?</p> <p>18 ATTORNEY EWALT: Objection to 19 form.</p> <p>20 THE WITNESS: I mean, I -- I -- I 21 don't know exactly what you're asking, 22 candidate but-for worlds -- it's the</p>
Page 339	Page 341
<p>1 Page 384.</p> <p>2 A. Okay.</p> <p>3 [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>8 Q. As an economist, when analyzing 9 competition and markets, do you examine whether 10 output has been reduced relative to a but-for 11 world without the allegedly restrictive conduct?</p> <p>12 A. I mean, that's what you would need 13 to do to show harm. I mean, I think it's an 14 explicit point I make at some length, is that 15 Plaintiffs' experts have not done so.</p> <p>16 Q. And you do not look at, however, 17 whether output is simply increasing or decreasing 18 without reference to a but-for world; is that 19 correct?</p> <p>20 A. I would certainly look at it. I 21 look at data -- all data, and when I see output 22 growing dramatically and exceeding projections,</p>	<p>1 Plaintiffs' job, as I see it, to explain 2 what their but-for world is.</p> <p>3 Candidate but-for worlds would 4 say, in general terms, Here's some 5 conduct I think was harmful, and now I'm 6 going to turn that conduct off and show 7 you the market would have done better.</p> <p>8 That's the sort of modeling that 9 economists do regularly. It wasn't done 10 here. But, certainly, the idea that I'm 11 going to turn off a piece of conduct and 12 show you that the market would perform 13 better without it is -- is the kind of 14 analysis that you would have to do.</p> <p>15 BY ATTORNEY NAKAMURA:</p> <p>16 Q. Is it your opinion that competition 17 can be harmed in a market where output is 18 increasing over time?</p> <p>19 ATTORNEY EWALT: Objection to 20 form.</p> <p>21 THE WITNESS: Yes.</p> <p>22</p>

Page 494	Page 496
17 [REDACTED]	1 deposition.
18 [REDACTED]	2
19 [REDACTED]	3 (Witness excused.)
20 [REDACTED]	4
21 [REDACTED]	5 (Deposition concluded at 6:36 p.m.
22 [REDACTED]	6 EDT)
17 Q. And last question: Can you give me	7
18 an example, as an economist, of any situation in	8
19 which a duty to deal would not, in your opinion,	9
20 be harmful to competition and consumers?	10
21 ATTORNEY EWALT: Objection to	11
22 form.	12
17	13
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21	17
22	18
19	19
20	20
21	21
22	22
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1 THE WITNESS: I think a duty to	1 C E R T I F I C A T E
2 deal -- an actual requirement to deal is	2 I, Cindy L. Sebo, Nationally Certified Court
3 harmful. I can't think of an example	3 Reporter herein, do hereby certify that the foregoing
4 where the duty is not harmful.	4 deposition of MARK A. ISRAEL, PH.D. was taken before
5 There might be situations where	5 me pursuant to notice at the time and place indicated;
6 firms work together in some way that's	6 that said witness duly swore to tell the truth, the
7 beneficial, but I think requiring firms	7 whole truth, and nothing but the truth under penalties
8 to work with their competitors is harmful	8 of perjury; that said testimony of witness was
9 to the essence of the competitive	9 correctly recorded to the best of my abilities in
10 process.	10 machine shorthand, thereafter transcribed under my
11 ATTORNEY NAKAMURA: All right.	11 supervision with computer-aided transcription; that
12 See, we're at time.	12 deposition is a true and accurate record of the
13 Thank you very much, Dr. Israel.	13 testimony given by the witness; that I am neither
14 And we'll go off the record.	14 counsel, nor kin to any party in said action, nor
15 ATTORNEY EWALT: Not quite. I	15 interested in the outcome; and that a copy of this
16 want to designate the transcript as	16 transcript obtained from a source other than the court
17 highly confidential under the protective	17 reporting firm, including an adversary or co-counsel
18 order in this case.	18 in the matter, is uncertified and may not be used at
19 Now we can go off the record.	19 trial.
20 ATTORNEY NAKAMURA: Thank you.	
21 THE VIDEOGRAPHER: Off the record	CINDY L. SEBO, RMR, CRR, CLR, RPR, CCR, CSR,
22 at 6:36. And this ends today's	20 RSA, CA CSR 14409, NJ Certified CR 30XI0024460,
	21 NJ Certified RT 30XR00019500, NM CSR 589, NY
	22 Realtime Court Reporter, NY Association Certified
	Reporter, OR CSR 230105, TN CSR 998, TX CSR 12778,
	WA CSR 23005926, Notary Public

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INSTRUCTIONS TO WITNESS

1 Please read your deposition over
 2 carefully and make any necessary corrections.
 3 You should state the reason in the appropriate
 4 space on the errata sheet for any corrections
 5 that are made.

6 After doing so, please sign the
 7 errata sheet and date it.

8 You are signing same subject to the
 9 changes you have noted on the errata sheet, which
 10 will be attached to your deposition.

11 It is imperative that you return
 12 the original errata sheet to the deposing
 13 attorney within thirty (30) days of receipt of
 14 the deposition transcript by you. If you fail to
 15 do so, the deposition transcript may be deemed to
 16 be accurate and may be used in court.

17

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CAPTION: United States, et al. vs. Google, LLC

1 MARK A. ISRAEL, PH.D. NO. 2024-933018

2 E R R A T A S H E E T

3 PAGE_____ LINE_____ CHANGE_____

4 REASON FOR CHANGE:

5 PAGE_____ LINE_____ CHANGE_____

6 REASON FOR CHANGE:

7 PAGE_____ LINE_____ CHANGE_____

8 REASON FOR CHANGE:

9 PAGE_____ LINE_____ CHANGE_____

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20 REASON FOR CHANGE:

21 PAGE_____ LINE_____ CHANGE_____

22 REASON FOR CHANGE:

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ACKNOWLEDGMENT OF WITNESS

1

2 I, MARK A. ISRAEL, PH.D., do hereby certify that
 3 I have read the foregoing pages herein, and that the
 4 same is a correct transcription of the answers given
 5 by me of the proceedings taken remotely to the
 6 questions therein propounded under penalty of perjury,
 7 except for the corrections or changes in form or
 8 substance, if any, noted in the attached errata sheet.

9 _____

10 DATE SIGNATURE

11

12

13

14

15 Subscribed and sworn to before me
 this _____ day of _____, 20____.

16

17 My Commission expires:

18 _____

19

20

21 _____

22 Notary Public

CAPTION: United States, et al. vs. Google, LLC

1 MARK A. ISRAEL, PH.D. NO. 2024-933018

2 E R R A T A S H E E T

3 PAGE_____ LINE_____ CHANGE_____

4 REASON FOR CHANGE:

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21 PAGE_____ LINE_____ CHANGE_____

22 REASON FOR CHANGE:

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Page	Line	Change	Reason
		quotation)	
		[REDACTED]	Transcription error.
		[REDACTED]	Transcription error.
247	19	“EMARKETER” should be “eMarketer”	Transcription error.
248	1	“EMARKETER” should be “eMarketer”	Transcription error.
267	9	“indirect Web, nonvideo display inventory” should be “indirect, web, non-video display inventory”	Transcription error.
		[REDACTED]	Transcription error.
279	15	“answer in” should be “answer on”	Transcription error.
305	15	“can” should be “can-”	Transcription error.
		[REDACTED]	Transcription error.
		[REDACTED]	Transcription error.
		[REDACTED]	Transcription error..
339	14	“is that” should be “that”	Clarification.
340	15	“a competitiveness” should be “the competitiveness”	Transcription error.
		[REDACTED]	Transcription error.
374	10	“EMARKETER” should be “eMarketer”	Transcription error.
378	11	“test” should be “test-”	Transcription error.
		[REDACTED]	Transcription error.
385	20	“this auto” should be “this was auto”	Clarification.
389	10	“Demand” should be “demand”	Transcription error.
390	9	“ad” should be “Ads”	Transcription error.
396	8	“and done you” should be “and did you”	Transcription error.
		[REDACTED]	Transcription error.
402	6	“Demand” should be “demand”	Transcription error.
		[REDACTED]	Transcription error.

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Page	Line	Change	Reason
417	22	“make up the” should be “makeup, the”	Transcription error.
418	1	“the respondents looks” should be “the respondents, looks”	Transcription error
		[REDACTED]	Transcription error.
		[REDACTED]	Transcription error.
		[REDACTED]	Transcription error.
		[REDACTED]	Clarification.
		[REDACTED]	Transcription error.
477	12	“a ad server” should be “an ad server”	Clarification.
		[REDACTED]	Transcription error.

I have inspected and read my deposition and have listed all changes and corrections above, along with my reasons therefor.

Date: 4/10/2024Signature: Mark A. Bell